

REMARKS

Claim 16 is objected to, Claims 1-14 and 16-21 are rejected under 35 USC §102 and Claims 4-14 and 17-21 are rejected under 35 USC §103. The applicants respectfully traverse these rejections and request reconsideration of the application in view of the above amendments and the following remarks.

Claims 1, 3, 10 and 16 have been amended. None of the changes constitute new matter since this clarification of the claims is supported by the original disclosure.

OBJECTION

Claim 16 was objected to for a spelling error. Claim 16 has been amended. Claim 16 now reads in part “alkali metal glycolate”. This change in language has been made to Claim 16 to clarify the claimed subject matter without intending to narrow the scope of the claim.

REJECTIONS UNDER 35 USC §102

Claims 1-14 and 16-21 were rejected under 35 USC 102(b) as being anticipated by “Neue Katalysatorsysteme zur Herstellung von Polyethylenterephthalat und deren Auswirkungen auf die Lichteigenschaften”, R. Gutmann, hereinafter referred to as “Gutmann. Specifically, the Office Action suggests that Gutmann discloses a catalyst system comprised of a titanium /alkali metal or alkaline earth metal complex used in polymerization and esterification of ethylene terephthalate (PETP) with titanium glycolate being one of the preferred titanium alkoxides to be use with sodium glycolate and with a ratio of 1:1 titanium/metal.

Claims 1-3 and 16 were rejected under 35 USC 102(b) as being anticipated by U.S. Patent no. 5,017,680, hereinafter referred to as "Sublett". Specifically, the Office Action suggest that Sublett discloses a catalyst system comprised of a titanium/alkali metal or alkaline earth metal complex in polymerization and esterification of ethylene terephthalate with titanium glycolate being one of the preferred titanium alkoxides to be used with sodium salt dissolved in ethylene glycol which results in sodium glycolate and with a ratio of 4:1 titanium/metal.

Claims 1 and 3 have been amended and now read in part "wherein the molar ratio of the polymeric titanium glycolate and the alkali metal glycolate is 1.25:1 to 100:1" and "the molar ratio of the polymeric titanium glycolate and the alkali metal glycolate is 1.25:1 to 10:1", respectively. The word "about" has been deleted from the claims to clarify that the molar ratio of the polymeric titanium glycolate and the alkali metal glycolate is not 1:1. Claim 1 has been amended and now reads in part "a polymeric titanium glycolate represented by the formula $[\text{TiO}_4(\text{CH}_2)_4]_n$ wherein n is up to 200". Since the titanium glycolate is polymeric, $n > 1$. These changes in language have been made to Claims 1 and 3 to clarify the claimed subject matter without intending to narrow the scope of the claims.

Claim 1 has been amended and now incorporates subject matter not disclosed by Gutmann and Sublett. In Gutmann the titanium/metal ratio is 1:1. Claim 1 has been amended to clarify that the molar ratio of the polymeric titanium glycolate and the alkali metal glycolate is 1.25:1 to 100:1, i.e., greater than 1:1. In Sublett the titanium alkoxides disclosed are acetyl, triisopropyl titanate, titanium tetraisopropoxide, titanium glycolates, titanium butoxide, hexyleneglycol titanate, tetraisooctyl titanate, and the like with titanium tetraisopropoxide being preferred (col. 5, lines 12-16). Polymeric titanium

glycolate represented by the formula $[\text{TiO}_4(\text{CH}_2)_4]_n$ wherein n is up to 200 is not disclosed.

Claim 1 has been amended to clarify that the titanium glycolate is polymeric, i.e., n does not equal 1.

REJECTIONS UNDER 35 USC §103

Claims 4-14 and 17-21 were rejected under 35 USC 103(a) as being unpatentable over Guttmann or Sublett in view of U.S. Patent no. 6,066,714, hereinafter referred to as "Putzig". Specifically, the Office Action suggests Guttmann and Sublett disclose a complex catalyst of titanium glycolate with an alkali or alkali earth metal glycolate for preparing polyesters from dimethyl terephthalate. Putzig discloses polyesters produced from transesterification of dialkyl terephthalate ester with a glycol by direct esterification, transesterification or polymerization using a titanium containing catalyst composition.

Every limitation in the claims must be given effect rather than considering one in isolation from the others [In re Geerdes, 491 F2d 1260, 180 USPQ 789(CCPA 1974)]. The patentable difference of the present invention over the references is that the catalyst complex comprises a polymeric titanium glycolate represented by the formula $[\text{TiO}_4(\text{CH}_2)_4]_n$ wherein n is up to 200 and a molar ratio of the polymeric titanium glycolate and the alkali metal glycolate of 1.25:1 to 100:1. As noted above, neither Guttmann nor Sublett discloses polymeric titanium glycolate. The person skilled in the art is not assumed to act out of idle curiosity, but only with some specific technical purpose in mind. In other words, the person skilled in the art cannot be assumed to seek for an alternative without some concrete technical reason. There must be an explanation of the "common knowledge and common sense" which is relied upon. [Dystar Textilfarben GmbH & Co. Deutschland KG

v. C. H. Patrick Co. 464 F.3d 1356, 80 USPQ2d 1641, 1649 (2006)]. There must be some rationale, articulation or reasoned basis to explain why the conclusion of obviousness is correct. [Alza Corp. v. Mylan Labs., 464 F.3d 1286, 80 USPQ2d 1001, 1003-1004 (2006)]. Applicants submit that the references cited and relied on by the Examiner do not provide a *prima facie* case of obviousness of the presently pending claims. In order to establish a *prima facie* case of obviousness, the scope and content of the prior art are determined; differences between the prior art and the claims at issue are ascertained and the level of ordinary skill in the pertinent art resolved. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (U. S. Sup. Ct., 1966); *KSR International Co. v. Teleflex Inc.* 82 USPQ 2d 1385, 1388 (U.S. Sup. Ct., 2007). As noted above, the difference of the present invention over the references is that the catalyst complex comprises a polymeric titanium glycolate represented by the formula $[\text{TiO}_4(\text{CH}_2)_4]_n$ wherein n is up to 200 and a molar ratio of the polymeric titanium glycolate and the alkali metal glycolate is 1.25:1 to 100:1. The examiner has not shown that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the claims [Ibid at 1397].

As noted in *KSR International*, cited above, secondary considerations might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented [Ibid at 1395]. Even if a *prima facie* case of obviousness were established by the cited references for a catalyst complex comprising a polymeric titanium glycolate represented by the formula $[\text{TiO}_4(\text{CH}_2)_4]_n$ wherein n is up to 200 and a molar ratio of the polymeric titanium glycolate and the alkali metal glycolate of 1.25:1 to 100:1, the unexpected results of the claimed invention would satisfy the requirements of patentability. In support of the benefits and advantages of the present invention, the applicants submit the

attached Declaration under 37 CFR §1.132 which shows a comparison of titanium/metal ratios, i.e., 1:1 v. 2:1. These comparative examples demonstrate that a molar ratio of the polymeric titanium glycolate and the alkali metal glycolate between 1.25:1 to 100:1 has improved results over a molar ratio of 1:1 in a catalyst for esterification of a dicarboxylic acid compound and a dialcoholic compound, followed by polycondensation to form a polyester. The color, specifically the lightness (L^* value), increases.

MISCELLANEOUS

Claim 10 has been amended for a spelling error. Claim 10 now reads in part “neopentylene glycol”. This change in language has been made to Claim 10 to clarify the claimed subject matter without intending to narrow the scope of the claim.

SUMMARY

The applicants have established novelty and lack of obviousness by the amendments to the claims which specify a catalyst complex comprising a polymeric titanium glycolate represented by the formula $[\text{TiO}_4(\text{CH}_2)_4]_n$ wherein n is up to 200 and a molar ratio of the polymeric titanium glycolate and the alkali metal glycolate of 1.25:1 to 100:1. The advantages and benefits of the claimed invention have been demonstrated by a comparative example. On the basis of the above amendments and remarks, reconsideration of this application is requested and its allowance requested at the examiner's earliest convenience. No new matter has been added.

The Applicants believe that no extension of term is required. However, this conditional petition is being made to provide for the possibility that the Applicants have inadvertently overlooked the need for a petition and fee for extension of time. If an additional extension of time is required, please consider this a petition therefor. The Commissioner is hereby authorized to charge any additional fees due by filing this paper or to credit any overpayment to Account No. 502025.

Respectfully submitted,

A handwritten signature in cursive script that reads "Jim Wheelington". The signature is written in dark ink and is positioned above a horizontal line.

Jim Wheelington

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